træfik

Who is this guy?

- Matt Todd
- Principal Architect @ Resonate Group
- Cloud Native Enthusiast
- https://github.com/mattjtodd
- https://hub.docker.com/u/mattjtodd/

Thanks....

To our hosts @ BlackCat Solutions

https://blackcatsolutions.co.uk/

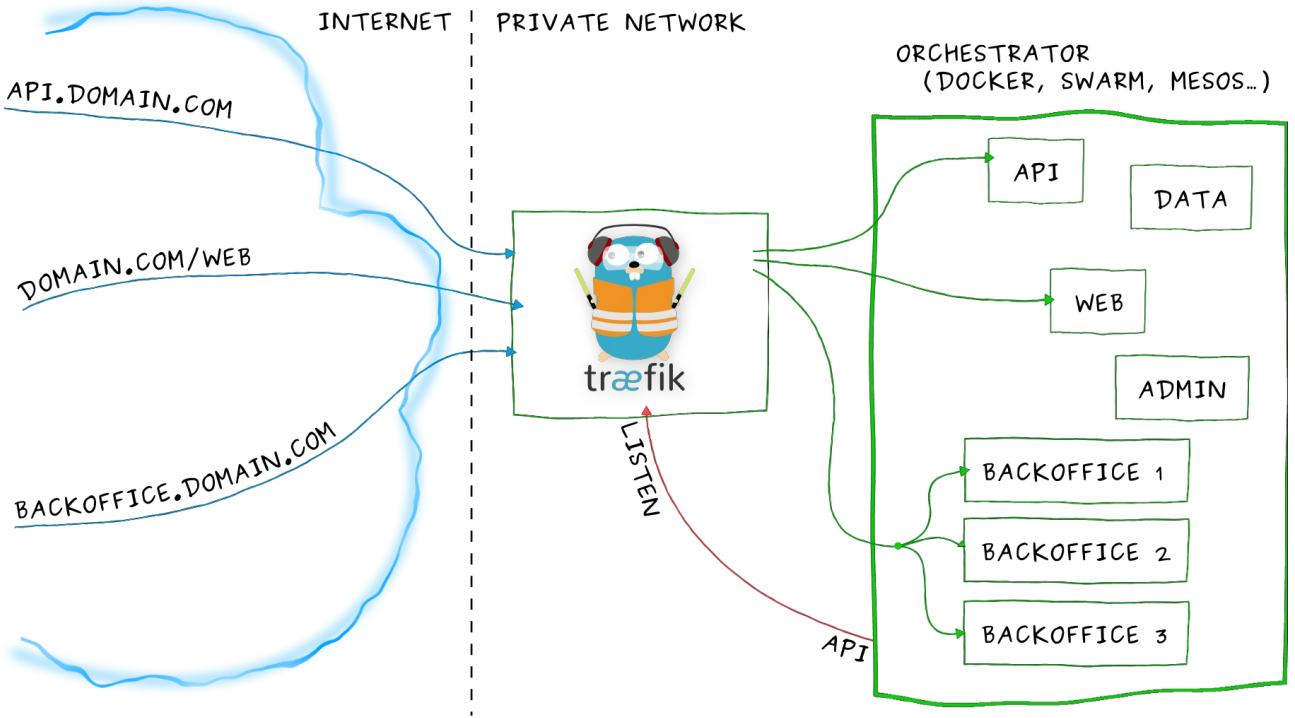
Effective Ingress Traffic Management with Traefik

A re-run.

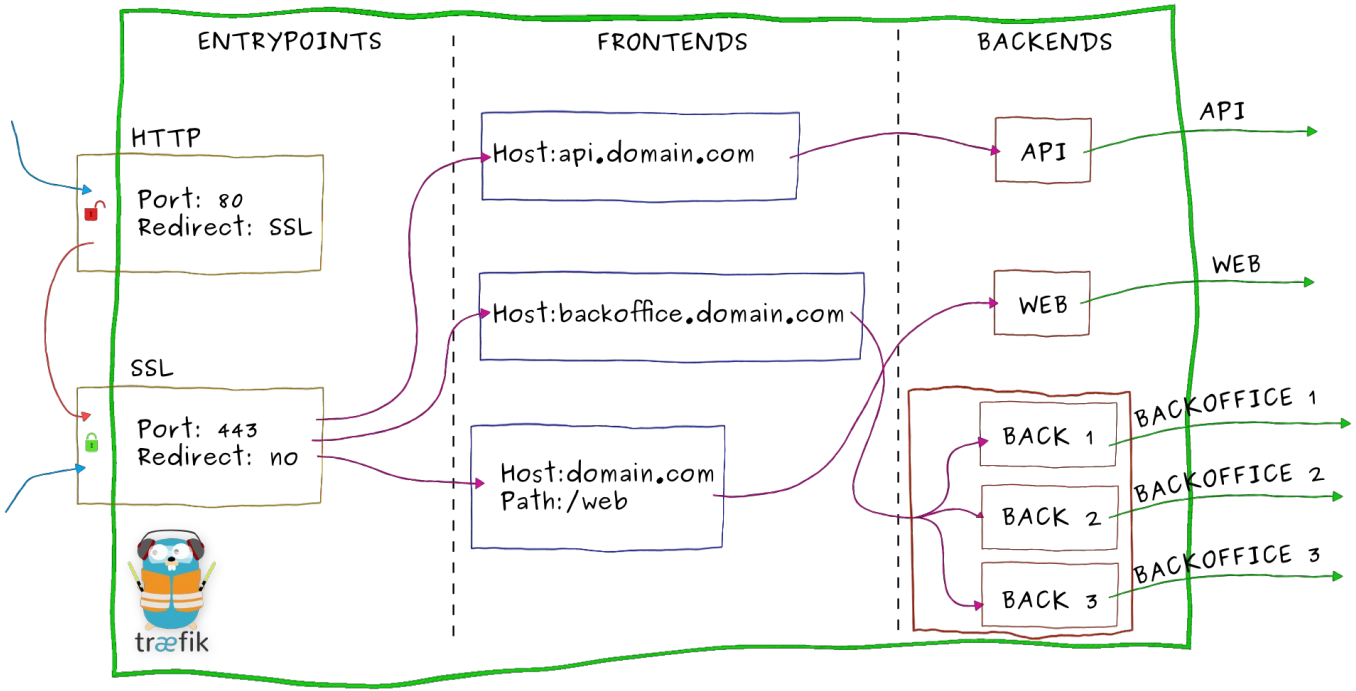
Traefik

- A modern HTTP (Layer 7) Reverse Proxy / Load Balancer
- Orchestrator Aware
- Support for multiple backends
- Written in GO!

Traefik


INTERNET
PRIVATE NETWORK
ORCHESTRATOR
(DOCKER, SWARM, MESOS…)
API.DOMAIN.COM
DOMAIN.COM/WEB
BACKOFFICE.DOMAIN.COM
træfik
LISTEN
API
API
DATA
WEB
ADMIN
BACKOFFICE 1
BACKOFFICE 2
BACKOFFICE 3

Traefik


ENTRYPOINTS
FRONTENDS
BACKENDS
HTTP
Port: 80
Redirect: SSL
SSL
Port: 443
Redirect: no
Host:api.domain.com
Host:backoffice.domain.com
Host:domain.com
Path:/web
API
WEB
BACK 1
BACK 2
BACK 3
API
WEB
BACKOFFICE 1
BACKOFFICE 2
BACKOFFICE 3
træfik

Features

- It’s fast
- No dependency hell, single binary made with go
- Tiny official docker image
- Rest API
- Hot-reloading of configuration. No need to restart the process

Features

- Circuit breakers, retry
- Round Robin, rebalancer load-balancers
- Metrics (Rest, Prometheus, Datadog, Statd)
- Access Logs (JSON, CLF)
- Let’s Encrypt support (Automatic HTTPS with renewal)

Supported Backends

Docker / Swarm mode

Kubernetes

Mesos / Marathon

Rancher (API, Metadata)

Consul / Etcd / Zookeeper / BoltDB

Eureka

Amazon ECS

Amazon DynamoDB

File

Rest API

Frontends

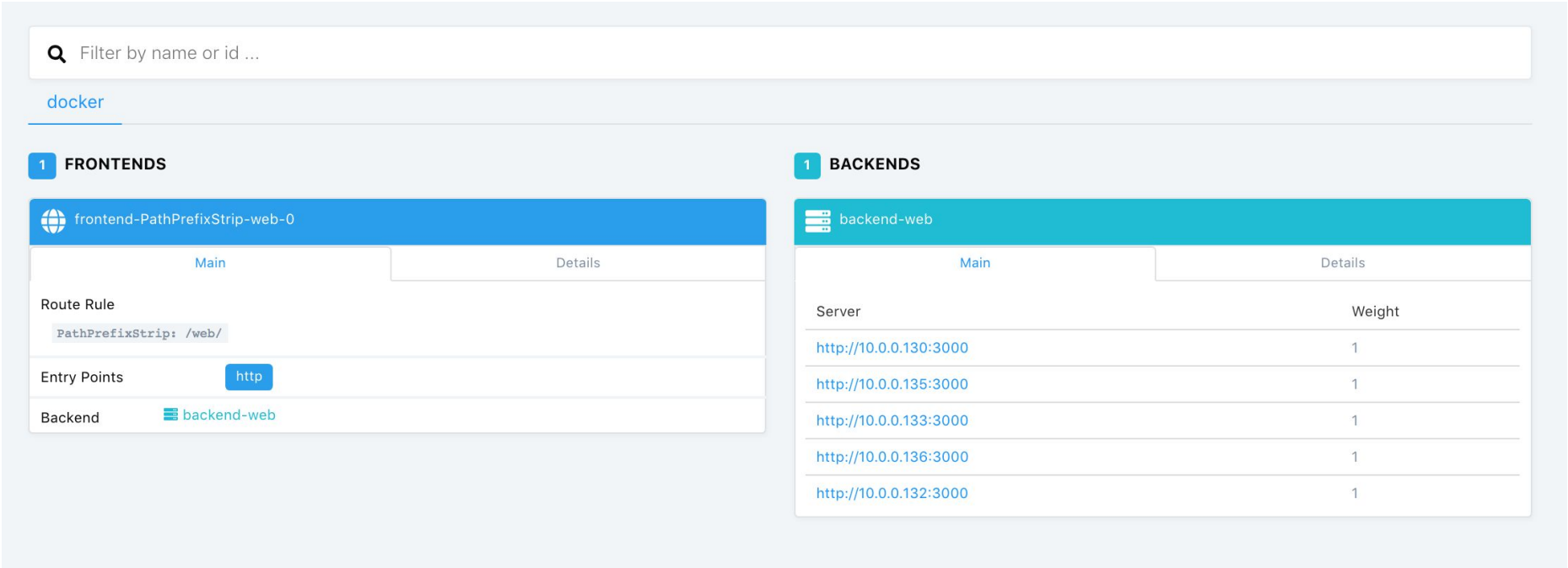
- Host Header
- Regex Headers
- HTTP Method
- Path
- Query Params

Now for some....

Canary Deployment

- Traefik
- FluentD
- Portainer
- Go Webapps
  - Web App1
  - Good Canary
  - Bad Canary

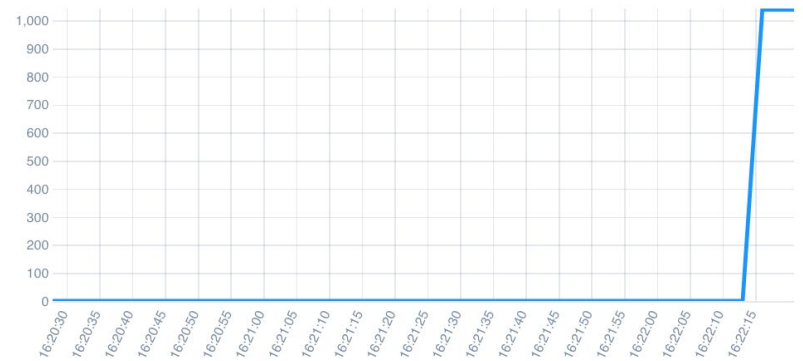
https://github.com/mattjtodd/docker-meetup-traefik


Filter by name or id ...
docker
1 FRONTENDS
frontend-PathPrefixStrip-web-0
Main
Details
Route Rule
PathPrefixStrip: /web/
Entry Points
http
Backend
backend-web
1 BACKENDS
backend-web
Main
Details
Server
Weight
http://10.0.0.130:3000
1
http://10.0.0.135:3000
1
http://10.0.0.133:3000
1
http://10.0.0.136:3000
1
http://10.0.0.132:3000
1

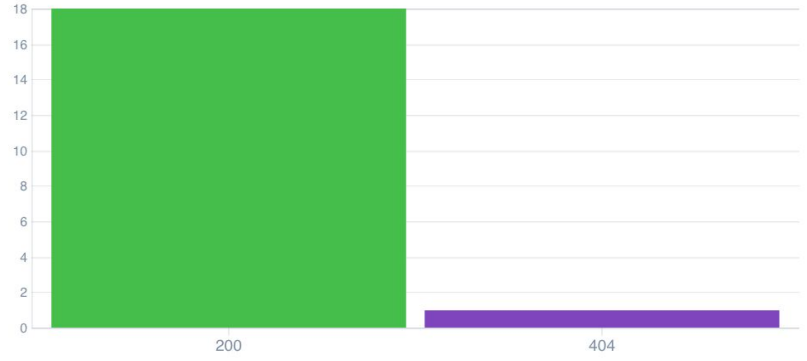
Traefik UI

Total Response Time	0 seconds	Total Code Count	19	Uptime Since 2018-05-31 14:26:10 +01:00	1 hour
Average Response Time	1 ms	Code Count	0	PID	1

Average Response Time (µs)



Total Status Code Count



Simple Response Metrics

Sticky Sessions!

Sticky Session

Works natively in the browser, but needs some flags and files with *curl:*

```
curl -c cookie.txt localhost/web/work

Traefik, "web1", "traefik_web1-4-linuxkit-025000000001"%

$ cat cookie.txt

# Netscape HTTP Cookie File

# https://curl.haxx.se/docs/http-cookies.html

# This file was generated by libcurl! Edit at your own risk.

localhostFALSE    /    FALSE    0    _40e28    http://10.0.0.136:3000
```

Sticky Session

```
$ curl -b cookie.txt localhost/web/work

Traefik, "web1", "traefik_web1-4-linuxkit-025000000001"%

$ curl -b cookie.txt localhost/web/work

Traefik, "web1", "traefik_web1-4-linuxkit-025000000001"%

$ curl localhost/web/work

Traefik, "web1", "traefik_web1-5-linuxkit-025000000001"%
```

Questions? Thoughts? More Shia Magic?